



**PATENT APPLICATION**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re application of

Docket No: Q79582

Kouhei NADEHARA

Appln. No.: Unknown

Confirmation No.: Unknown

Group Art Unit: Unknown

Filed: January 27, 2004

Examiner: Unknown

For: IMPLEMENTATIONS OF AES ALGORITHM FOR REDUCING HARDWARE WITH  
IMPROVED EFFICIENCY

**INFORMATION DISCLOSURE STATEMENT**  
**UNDER 37 C.F.R. §§ 1.97 and 1.98**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

In accordance with the duty of disclosure under 37 C.F.R. § 1.56, Applicant hereby notifies the U.S. Patent and Trademark Office of the documents which are listed on the attached PTO/SB/08 A & B (modified) form and/or listed herein and which the Examiner may deem material to patentability of the claims of the above-identified application.

One copy of each of the listed documents is submitted herewith.

1. Federal Information Processing Standards Publication 197, "Announcing the Advanced Encryption Standard (AES), November 26, 2001, pp. 1-51.
2. H. Seike et al., "Trial product of the AES cryptography using FPGA", The Institute of Electronics, Information and Communication Engineers, Technical Report of IEICE, VLD2001-91, 1CD2001-136, FTS2001-38, November 2001.

Kouhei N. ADEHARA  
Q79582  
INFORMATION DISCLOSURE STATEMENT

3. P. Schaumont et al., "Unlocking the Design Secrets of a 2.29 Gb/s Rijndael Processor", Design Automation Conference, 2002. Proceeding, 39<sup>th</sup> 2002, pp. 634-639.
4. M. McLoone et al., "Rijndael FPGA Implementation Utilizing Look-Up Tables", Signal Processing Systems, 2001 IEEE Workshop, pp. 349-360.
5. Implementations of AES (Rijndael) in C/C++ and Assembler, "Aescript.asm", January 21, 2003, pp. 1-11.
6. Japanese Patent Application No. 2002-23999, published January 25, 2002.
7. Japanese Patent Application No. 2000-322280, published November 24, 2000.
8. Japanese Patent Application No. 11-249921, published September 17, 1999.
9. Japanese Patent Application No. 63-186338, published August 1, 1988.

The present Information Disclosure Statement is being filed: (1) No later than three months from the application's filing date; (2) Before the mailing date of the first Office Action on the merits (whichever is later); or (3) Before the mailing date of the first Office Action after filing a request for continued examination (RCE) under §1.114, and therefore, no Statement under 37 C.F.R. § 1.97(e) or fee under 37 C.F.R. § 1.17(p) is required.

In compliance with the concise explanation requirement under 37 C.F.R. § 1.98(a)(3) for foreign language documents, Applicant states that above references are discussed within the specification beginning at page 2, line 14.

The submission of the listed documents is not intended as an admission that any such document constitutes prior art against the claims of the present application. Applicant does not

Kouhei NADEHARA  
Q79582  
INFORMATION DISCLOSURE STATEMENT

waive any right to take any action that would be appropriate to antedate or otherwise remove any listed document as a competent reference against the claims of the present application.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account. A duplicate copy of this paper is attached.

SUGHRUE MION, PLLC  
Telephone: (202) 293-7060  
Facsimile: (202) 293-7860

WASHINGTON OFFICE

**23373**

CUSTOMER NUMBER

Respectfully submitted,



Howard L. Bernstein  
Registration No. 25,665

Date: January 27, 2004

Substitute for Form 1449 A & B/PTO  <b><u>INFORMATION DISCLOSURE</u></b> <b><u>STATEMENT BY APPLICANT</u></b>  <i>(use as many sheets as necessary)</i>				<i>Complete if Known</i>	
				Application Number	Unknown
				Confirmation Number	Unknown
				Filing Date	January 27, 2004
				First Named Inventor	Kouhei NADEHARA
				Art Unit	Unknown
				Examiner Name	[case_examiner]
Sheet	1	of	1	Attorney Docket Number	Q79582

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. <sup>1</sup>	Document Number		Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document
		Number	Kind Code <sup>2</sup> (if known)		
		US			
		US			
		US			
		US			
		US			
		US			
		US			
		US			

FOREIGN PATENT DOCUMENTS							
Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document			Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Translation <sup>6</sup>
		Country Code <sup>3</sup>	Number <sup>4</sup>	Kind Code <sup>5</sup> (if known)			
		JP	2002-23999	A	01/25/2002		
		JP	2000-322280	A	11/24/2000		
		JP	11-249921	A	09/17/1999		
		JP	63-186338	A	08/01/1988		

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city, and/or country where published.	Translation <sup>6</sup>
		Federal Information Processing Standards Publication 197, "Announcing the Advanced Encryption Standard (AES), November 26, 2001, pp. 1-51.	
		H. Seike et al., "Trial product of the AES cryptography using FPGA", The Institute of Electronics, Information and Communication Engineers, Technical Report of IEICE, VLD2001-91, ICD2001-136, FTS2001-38, November 2001.	
		P. Schaumont et al., "Unlocking the Design Secrets of a 2.29 Gb/s Rijndael Processor", Design Automation Conference, 2002. Proceeding, 39 <sup>th</sup> 2002, pp. 634-639.	
		M. McLoone et al., "Rijndael FPGA Implementation Utilizing Look-Up Tables", Signal Processing Systems, 2001 IEEE Workshop, pp. 349-360.	
		Implementations of AES (Rijndael) in C/C++ and Assembler, "Aescript.asm", January 21, 2003, pp. 1-11.	

Examiner Signature		Date Considered	
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\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kind Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov), MPEP 901.04 or in the comment box of this document. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST. 3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to indicate here if English language Translation is attached.